North Carolina Department of Environment and Natural Resources
**Division of Waste Management**

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**SOLID WASTE SECTION**

February 18, 2014

Ms. Amanda Bader, P.E.
County Engineer
Harnett County General Services
P. O. Box 940
Lillington, NC 27546

Subject: Comments on the Permit Amendment Application for a 5-Year Permit Review
Anderson Creek C&DLF – Phases I & II and Anderson Creek Transfer Facility,
Harnett County, North Carolina
Permit Nos. 43-03 & 43-09T, Document ID No. (Doc ID) 20592

Dear Ms. Bader:

On January 15, 2014, the Division of Waste Management (DWM), Solid Waste Section (SWS) received an electronic copy of the Permit Amendment Application (Application) for a 5-Year Permit Review for both Construction and Demolition Debris Landfill (C&DLF) and Transfer Station at the Anderson Creek Landfill Facility. The application is titled as:

- *Permit Application - Harnett County Anderson Creek Landfill Facility C&D Landfill and Transfer Station Continued Operations, Harnett County, North Carolina*. Dated January 15, 2014. Prepared for Harnett County Solid Waste Department. Prepared by Smith Gardner, Inc. (Doc ID 20420).

This Application is also incorporated the responses to the November 22, 2013 DWM comments (Doc ID 20433) on the Operations Plan (Doc ID 19835) for the both C&DLF and Transfer Station.

The SWS conducted a review of the new submittal dated January 2014 and have several comments which state below:

Attachment B - Facility & Engineering Plan

1. (Section 6.5 - Access and Roadways) The Drawing S2 is likely a typographic error; the Drawing S1 is likely the one showing the existing site conditions including roads, accesses, and scale house.

2. (Appendix A) Please address the following concerns:

i. The waste density based on the historical data is ranging from 26 pcf to 30 pcf on Sheet 2/5. Is there any reason why the data was not used in the Slope Stability Analysis and Settlement Calculation?

ii. Why different waste density values were used in the calculations: 60 pcf (Slope Stability Analysis) vs 50 pcf (Settlement Calculation)?

iii. Why different soil density values were used in the calculations: 110 pcf (Slope Stability Analysis) vs 126.5 pcf (Settlement Calculation)?

iv. Has the weight/stress generated by the proposed final soil cover system been considered in the Slope Stability Analysis and Settlement Calculation?

v. Please use the engineering parameters in a consistent manner throughout the analysis and calculations so that these assumed values can be confirmed by the soil testing specified in the Technical Specifications and the CQA Plan.

vi. Please add the testing requirements – testing methods and frequencies of soil strength including subgrade and compacted clay liner (final cap) to the Technical Specifications and the CQA Plan.

<u>Attachment C - Technical Specifications</u>

3. (Section 02222 – Excavation) According to the grading plan as illustrated on Drawing No. EX1/Sheet No. 8, the base for new cell area will be largely formed/ graded by cutting and not by filling. Please address the following concerns:
   i. The specification must address the C&DLF base requirements stated in the Rule .0540(2)(b). If the testing results (according to the requirements stated in Table 3.2 in CQA Manual) indicate the in-situ soils at the designed grades/elevations don't meet the above-mentioned rule requirement, the suitable backfill must be brought in and compacted by lift(s) to new grades/elevations which will result in the variation of landfill capacity; or to maintain the original designed grades/elevations, it can be done by over-excavation then backfilling suitable fill. Please revise Paragraph D accordingly.

   ii. The as-built final grade/elevation survey of the new cell needs to be added to the spec.

   iii. Please add the minimum values of soil density and friction angle and shear strength of subgrade of the landfill cell to the specification (See Comment 2v & 2vi)

   iv. The requirements for subgrade inspection [Rule .0540(5)] needs to be added to the spec.

4. (Section 02250) Please address the following concerns:
   i. Based on the experiences from waste industry, the maximum lift thickness in a loose condition is 9 inches, and the maximum lift thickness in final compacted condition is 6-inches [Rule .1624(8)(B)(iii)]. The proposed maximum lift thickness (compacted) of 9 inches in Table 2 is not acceptable. Please revise the criterion accordingly.

ii. A separate test pad/ test fill construction is required for each new borrow source and change in construction method or equipment. Please add this requirement to the Paragraph D.4 –Test Fill Construction.

iii. The Paragraph D.6. - Placement and Compaction, item b shall specify the construction requirement to increase the bonding between the soil liner lift interfaces [Rule .1624(8)(B)(iv)].

iv. The reworked area must be retested according to the specification and the CQA Manual. Please add this requirement to the item d of the Paragraph D.6

v. The last sentence of the item k, Paragraph D.6. - Placement and Compaction, is likely irrelevant to the proposed final cover system. Please make necessary correction.

vi. Please add the minimum values of soil density and friction angle and shear strength of soil liner to the specification (See Comment 2v & 2vi). Please also add test frequency (Number of test per lift per acre) to Table 2 of this spec or Table 4.3 of the CQA Manual.

Attachment D – CQA Manual

5. (Section 3.2) The approval of the constructed sub-grade and base of the landfill cell must address the notification requirement stated in Rule .0540(5).

6. (Table 4.3) The Table 4.1 mentioned in the Note 4 is likely a typo.

7. (Section 5.1 – Final Cover System Material Approval) There are no Technical Specifications of CPE pipe and LFG components available in Attachment C. Please provide the site-specific specifications.

Attachment E – Operations Plan

8. (Section 2.2.2) In the first paragraph, the references of Section 2.1.2 for acceptable wastes at the C&DLF and the Rule 0.0542 are likely typos; please make necessary corrections.

9. (Section 2.8) Please address the following concerns of the operation at Yard Waste Processing Area:
   i. Please provide the acreage of the facility.

   ii. Yard trash (green wastes) such as leaves, grass cuttings, vegetative material containing high nitrogen shall be separated and stockpiled from woody material (carbon sources – such as pallet, clean wood) initially. After the green wastes are composted and cured, the green wastes can be mixed with woody material in the stockpile areas. The facility must compost the green waste according to the .1400 Rules. Please revise the section accordingly.

   iii. The waste/product stockpiles must be located at least 25-foot clear distance from any drainage features, if any exists. Please add this buffer requirement to the section.

iv. Incidental and unacceptable waste found in the Yard Waste Processing Area should be removed to the Transfer Station or the C&DLF for proper disposal prior to the close of business each day. Please add this requirement to the last paragraph of this section.

Attachment F – Closure & Post-Closure Plan

10. (Section 1.3 Landfill Gas System) Please address the following concerns:
    i. Please provide the drawing reference and descriptions of the gas wells and vents in the subsection or provide a section in the Attachment C - Technical Specifications.

    ii. In accordance with the quantity of gas wells/vents in the closure cost estimates, the frequency of well/gas installation is likely one gas well/vent per acre. Please state the gas well/vent frequency in this sub-section.

Attachment I – Drawings

11. (Sheet No. 2/Drawing No. S1): The groundwater monitoring well locations – CDW-7 through CDW-9 are not consistent with those on the Figure 3 of the approved Groundwater Monitoring Plan (Doc ID 19541). Please revise the well locations accordingly.

Leachate Collection System

12. The Application (Closure Plan and notation in Drawing No. S1/Sheet No. 2) proposed to remove the existing leachate Sumps B, C, & D and associated French drains at the closed unlined MSWLF and CDLF within the landfill facility. Will the County provide any written proposal/plan of the project including plans for restoring the site and landfill cover systems?

13. The French drain underneath a drainage ditch, running from the north side to the west side of the active C&DLF – Phase II area must also be dealt with during the course of constructing new 0.4-acre lateral expansion. This French drain that was installed by the County without the SWS acknowledge and approval and shall be removed, and the site must be properly backfilled and graded for draining surface flow.

If you have questions about the comments, please contact myself at (919) 707-8281 or ming.chao@ncdenr.gov.

Sincerely,

Ming-Tai Chao, P.E.,
Environmental Engineer
Solid Waste Section

Cc:
Pieter Scheer, P.E. Smith Gardner, Inc.
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Central Files
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